

# Brain Dynamics Graduate School



## Newsletter – September ‘23

\*Let us know if you have an announcement, upcoming event, new publication or job posting!  
Send your information (with a link if applicable) to [jovanovic@uni-leipzig.de](mailto:jovanovic@uni-leipzig.de).  
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## Events

- **2nd Brain Dynamics Scientific Day**

The second Brain Dynamics Scientific Day will take place on Thursday, **September 28th**, in the seminar room and foyer of the **Centre for Biotechnology and Biomedicine (BBZ)**. The Scientific Day will include a series of talks by doctoral students, postdocs and principal investigators, poster presentations and two keynote lectures by:

- **Prof. Dr. Dr. Sabine Liebscher**, Department of Neurology, University Hospital Cologne & Institute of Clinical Neuroimmunology, University Hospital, Ludwig Maximilian University Munich, and
- **Prof. Dr. Stefan Debener**, Department of Psychology & Cluster of Excellence Hearing4All, Carl von Ossietzky University Oldenburg.

<https://www.uni-leipzig.de/en/event-detail/event/2nd-brain-dynamics-scientific-day-2023-09-28>

- **Guest lecture at the MPI CBS**

**25.09.** 15:00 MPI CBS, Wilhelm Wundt Room (A400), Stephanstraße 1A, 04103 Leipzig

**Prof. Dr. Jörn Diedrichsen**, Brain and Mind Institute, Department for Computer Science & Department for Statistical and Actuarial Sciences, University of Western Ontario, Canada

“What is the function of the human cerebellum across cognitive domains?”.

<https://www.cbs.mpg.de/events/35213/338738>

- **Language Circle Seminar**

27.09. 13:00 online

**Dr Ali Mazaheri**, School of Psychology, Centre for Human Brain Health, University of Birmingham, England, UK

"Deciphering dementia's onset: EEG indicators in language processing among MCI patients".

<https://www.cbs.mpg.de/events/35503/338738>

- **Guest lecture at the MPI CBS**

29.09. 11:00 hybrid, online & MPI CBS, Wilhelm Wundt Room (A400), Stephanstraße 1A, 04103 Leipzig

**Justine Hansen**, Montréal Neurological Institute, McGill University, Montréal, QC, Canada

“The brainstem perspective on cortical function”.

<https://www.cbs.mpg.de/events/35461/338738>

## News

- **Call for Inter-Lab Pilot Projects**

Brain Dynamics Graduate School is starting a platform for doctoral candidates and postdocs to develop their own collaborative small-scale projects. The Inter-lab Pilot Project program offers funding in the amount of up to 3.500€ to support multi-lab, multidisciplinary pilot projects in humans and/or animal models. The objective of the Pilot Project program is to enable Brain Dynamics members to collect and/or analyse preliminary data in preparation for grant applications to local, national and international funding agencies.

<https://www.uni-leipzig.de/en/brain-dynamics/graduate-school-brain-dynamics/news-events/pilot-projects>

- **NeuroDoWo 2024 in Leipzig**

Neuroscience Doctoral Students Workshop (NeuroDoWo) under the patronage of the German Neuroscience Society (Neurowissenschaftliche Gesellschaft e.V.) will take place in Leipzig from the 09th-12th of September 2024. The NeuroDoWo Planning Committee is looking for new members.

<https://www.uni-leipzig.de/en/brain-dynamics/graduate-school-brain-dynamics/news-events/newsdetail/artikel/neurodowo-2024-in-leipzig-2023-09-19>

- **Social isolation causes the brain to age faster**

PD Dr. Veronica Witte from the Clinic for Cognitive Neurology, University Hospital Leipzig & Department of Neurology, MPI-CBS, Leipzig talks about her latest publication in 'eLife':

<https://www.uni-leipzig.de/en/newsdetail/artikel/social-isolation-ages-the-brain-faster-2023-06-20>

- **Kuhl-Lassen Award for Prof. Dr. Henryk Barthel**

The Society of Nuclear Medicine and Molecular Imaging (SNMMI) has given its highest annual award to Prof. Dr. Henryk Barthel from the Department of Nuclear Medicine at the University Hospital Leipzig. Prof. Barthel was honoured for his research on novel PET imaging techniques to improve the diagnosis and treatment of Alzheimer's disease and stroke, as well as combined PET-MR imaging of the brain.

<https://www.uni-leipzig.de/newsdetail/artikel/leipziger-nuklearmediziner-erhaelt-hoechste-auszeichnung-der-amerikanischen-fachgesellschaft-2023-08-16>

- **New Insight into the Mechanisms of multiple sclerosis**

Prof. Dr. Ruth Stassart from the Paul Flechsig Institute and Dr. Robert Fledrich from the Institute of Anatomy led the study recently published in Nature Neuroscience that has discovered detrimental effects of myelin in an autoimmune environment:

<https://www.uni-leipzig.de/en/newsdetail/artikel/multiple-sklerose-myelin-kann-ueberleben-der-nervenfasern-bedrohen-2023-06-30>

## New members

We welcome four new doctoral student and one new supervisor to the Brain Dynamics family:

➤ **Alexandra John**

Research Group Valk, Otto Hahn Research Group "Cognitive Neurogenetics", Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig

Research project: "The impact of thalamocortical interaction on brain-wide information processing"

<https://www.cbs.mpg.de/person/ajohn/1485748>

➤ **Malin Kotyra**

Research Group Richter, Institute of Pharmacology, Pharmacy and Toxicology,  
Faculty of Veterinary Medicine, Leipzig

Research project: "Morphometric studies of striatal neurons in an animal model of  
paroxysmal dystonia (dt<sup>sz</sup> hamster)"

<https://www.vetmed.uni-leipzig.de/institut-fuer-pharmakologie-pharmazie-und-toxikologie/institute>

➤ **Jakob Marx**

Research Group Richter, Institute of Pharmacology, Pharmacy and Toxicology,  
Faculty of Veterinary Medicine, Leipzig

Research project: "Investigations on the neurotransmission of striatal interneurons  
in the mouse model of dystonia"

<https://www.vetmed.uni-leipzig.de/institut-fuer-pharmakologie-pharmazie-und-toxikologie/institute>

➤ **Sarah Schrempel**

Research Group Roßner, Paul Flechsig Institute of Brain Research, Leipzig

Research project: " Detoxification of neurotoxic pyroglutamate proteins in  
Alzheimer's and Parkinson's disease by pyroglutamase and pyroglutamyl  
peptidases"

<http://pfi.medizin.uni-leipzig.de/pfi.site,postext,main-site.html>

## Open position

• **Open PhD position in the research group Jais**

The laboratory of Dr. Alexander Jais at the Helmholtz Institute for Metabolic,  
Obesity and Vascular Research, University Leipzig is offering a PhD position in  
Systems Neuroscience. (f/m/x)

<https://jobs.helmholtz-muenchen.de/jobposting/123a28f8395c806ea58d6d4c1fca3b7e44071f3b0>

## Latest publications

➤ Brain Dynamics graduate student **Yin Kwan Chung** and research group  
**Langenhan**

7TM domain structures of adhesion GPCRs: what's new and what's missing?

Seufert F, Chung YK, Hildebrand PW, Langenhan T.  
Trends Biochem Sci. 2023 Aug; 48(8):726-739. doi: 10.1016/j.tibs.2023.05.007.

- Brain Dynamics graduate students **Niko Fleischer** and **Maria Lehning** and research groups **Stassart / Fledrich / Morawski**

Myelin insulation as a risk factor for axonal degeneration in autoimmune demyelinating disease.

Schäffner E, Bosch-Queralt M, Edgar JM, Lehning M, Strauß J, Fleischer N, Kungl T, Wieghofer P, Berghoff SA, Reinert T, Krueger M, Morawski M, Möbius W, Barrantes-Freer A, Stieler J, Sun T, Saher G, Schwab MH, Wrede C, Frosch M, Prinz M, Reich DS, Flügel A, Stadelmann C, Fledrich R, Nave KA, Stassart RM.

Nat Neurosci. 2023 Jun 29. doi: 10.1038/s41593-023-01366-9.

- Brain Dynamics graduate student **Sebastian Wehle** and research group **Müller**

Early sensory gain control is dominated by obligatory and global feature-based attention in top-down shifts of combined spatial and feature-based attention.

Gundlach C, Wehle S, Müller MM.

Cereb Cortex. 2023 Aug 2; bhad282. doi: 10.1093/cercor/bhad282.

- Research group **Bechmann**

Interleukin-36 $\gamma$  is causative for liver damage upon infection with Rift Valley fever virus in type I interferon receptor-deficient mice.

Anzaghe M, Niles MA, Korotkova E, Dominguez M, Kronhart S, Ortega Iannazzo S, Bechmann I, Bachmann M, Mühl H, Kochs G, Waibler Z.

Front Immunol. 2023 Sep 1; 14:1194733. doi: 10.3389/fimmu.2023.1194733.

Distinct molecular profiles of skull bone marrow in health and neurological disorders.

Kolabas ZI, ..., Bechmann I, Ondruschka B, Brendel M, Theis FJ, Erturk A.

Cell. 2023 Aug 17; 186(17):3706-3725.e29. doi: 10.1016/j.cell.2023.07.009.

- Research group **Bogdan**

Assessing consciousness in patients with disorders of consciousness using soft-clustering.

Adama S, Bogdan M.

Brain Inform. 2023 Jul 14; 10(1):16. doi: 10.1186/s40708-023-00197-5.

- Research group **Hirrlinger**

Genetic impairment of folate metabolism regulates cortical interneurons and social behavior.

Sadigurschi N, Scrift G, Hirrlinger J, Golan HM.

Front Neurosci. 2023 Jun 28; 17:1203262. doi: 10.3389/fnins.2023.1203262.

➤ Research groups **Weiskopf / Morawski**

Fiber-orientation independent component of  $R_2^*$  obtained from single-orientation MRI measurements in simulations and a post-mortem human optic chiasm.

Fritz FJ, Mordhorst L, Ashtarayeh M, Periquito J, Pohlmann A, Morawski M, Jaeger C, Niendorf T, Pine KJ, Callaghan MF, Weiskopf N, Mohammadi S.  
Front Neurosci. 2023 Aug 25; 17:1133086. doi: 10.3389/fnins.2023.1133086.

➤ Research group **Müller**

Sustained selective attention to chromatic information enhances visuocortical gain at the population level.

Panitz C, Keil A, Müller MM.  
Eur J Neurosci. 2023 Aug 10. doi: 10.1111/ejn.16113.

➤ Research group **Richter**

Electrophysiological insights into deep brain stimulation of the network disorder dystonia.

Franz D, Richter A, Köhling R.  
Pflugers Arch. 2023 Oct; 475(10):1133-1147. doi: 10.1007/s00424-023-02845-5. Epub 2023 Aug 2.

➤ Research groups **Michalski / Krüger / Roßner**

Tricellulin,  $\alpha$ -Catenin and Microfibrillar-Associated Protein 5 Exhibit Concomitantly Altered Immunosignals along with Vascular, Extracellular and Cytoskeletal Elements after Experimental Focal Cerebral Ischemia.

Höfling C, Roßner S, Flachmeyer B, Krueger M, Härtig W, Michalski D.  
Int J Mol Sci. 2023 Jul 25; 24(15):11893. doi: 10.3390/ijms241511893.

➤ Research group **Schröger**

Deviants violating higher-order auditory regularities can become predictive and facilitate behaviour.

Coy N, Bendixen A, Grimm S, Roeber U, Schröger E.  
Atten Percept Psychophys. 2023 Aug 2. doi: 10.3758/s13414-023-02763-9.

➤ Research group **Valk**

Functional and microstructural plasticity following social and interoceptive mental training.

Valk SL, Kanske P, Park BY, Hong SJ, Böckler A, Trautwein FM, Bernhardt BC, Singer T.  
Elife. 2023 Jul 7; 12:e85188. doi: 10.7554/eLife.85188.

Cerebral chemoarchitecture shares organizational traits with brain structure and function.

Hänisch B, Hansen JY, Bernhardt BC, Eickhoff SB, Dukart J, Misic B, Valk SL.  
Elife. 2023 Jul 13; 12:e83843. doi: 10.7554/eLife.83843.

Diverging asymmetry of intrinsic functional organization in autism.

Wan B, Hong SJ, Bethlehem RAI, Floris DL, Bernhardt BC, Valk SL.

Mol Psychiatry. 2023 Aug 16. doi: 10.1038/s41380-023-02220-x.